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2023 Youth Innovation Challenge winners

CANADA



Gabrielle Kirk and Michael Lavorato

Solution: *Aquaponics: A water-wise solution for sustainable food production*

Winners: Gabrielle Kirk and Michael Lavorato

Solution summary

Aquaponics: A water-wise solution for sustainable food production puts forward an innovative and sustainable form of agriculture as an alternative to current agricultural practices that contribute to generating critical water and environmental issues, including freshwater dead-zones, water scarcity, environmental degradation, rampant loss of biodiversity, and global greenhouse gas emissions.

This solution can mimic the natural ecology in a region by creating a symbiotic relationship between plants and aquatic animals, using a closed-loop system to recirculate water through fish tanks and plant beds, conserving water while producing nutrient-rich food and plant fertilizer.

Aquaponics systems, which have been successfully implemented in school settings, promote lifelong learning and environmental stewardship in youth and encourage the shift towards a more sustainable food system.

Description of the organization

Aquaponics World, led by Gabrielle Kirk and Michael Lavorato, combats deleterious water-related issues, and helps mitigate climate change by building a more sustainable food system. They specialize in designing, constructing, and maintaining small-scale aquaponics systems, which combine recirculating aquaculture with hydroponics to create an innovative form of agriculture. By using the nutrient-rich water from raising fish to fertilize soil-less plants, their systems promote a natural balance that benefits both flora and fauna.



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Team members

Gabrielle Kirk

Gabrielle is dedicated to making a meaningful and lasting impact on the health and well-being of individuals, communities, and the environment. Gabrielle pursued her academic journey with a strong focus on public health. She earned both a Bachelor's and Master's degree in Public Health, and is currently working on her Ph.D. in Population Health.

Gabrielle has a diverse portfolio of professional experience, having worked as the senior advisor for the Chinook Primary Care Network, the Coordinator of the Collaborative Health Research Institute of Southern Alberta, and as the director of an elder abuse response program. Gabrielle's diverse career paths and roles all stem from her core passion for public health.

Born and raised in rural southern Alberta, Gabrielle's upbringing in an agricultural community sparked her passion for the environment and sustainable farming practices. While Gabrielle's career and education revolve primarily around public health, her ardent passion for the environment and sustainable agriculture led her to co-found Aquaponics World. She designs, builds, and operates aquaponics systems across Alberta through which she promotes sustainable farming practices and mitigates environmental degradation to create a healthier and more sustainable future. Through her interdisciplinary efforts, she aspires to make a lasting impact on individuals and communities.

Michael Lavorato

Michael Lavorato, the co-founder of Aquaponics World, is a passionate advocate for environmental stewardship and education. Michael is from rural southern Alberta and holds a Bachelor's degree in Psychology. He incorporates this knowledge to bridge the gap between environmental awareness and education, recognizing the power of education in fostering a sense of responsibility and stewardship towards the natural world.

With extensive experience working in schools, Michael has honed his skills in developing educational programming specifically tailored to students. Through innovative approaches, he actively engages young minds and instills in them a love for nature and sustainable practices. By incorporating the principles of aquaponics, he creates immersive and hands-on learning experiences that not only teach students about sustainable agriculture but also highlight the intricate connections between plants, animals, and ecosystems. Through this initiative, he seeks to revolutionize food production methods, promote ecological harmony, and inspire individuals to actively participate in preserving our planet.